

CLAIMS

1. An immunotolerance inducer for inducing immunological tolerance in a patient undergoing an organ transplantation which comprises a first pharmaceutical composition for portal administration which comprises an effective amount of a tolerogen containing hematopoietic stem cells, hematopoietic progenitor cells, mature lymphocytes or a mixture thereof in combination with a pharmaceutical carrier and a second pharmaceutical composition for intravenous administration which comprises an effective amount of said tolerogen in combination with a pharmaceutical carrier.

2. The immunotolerance inducer according to Claim 1 wherein the tolerogen is comprised of bone marrow cells.

3. An immunotolerance inducer for inducing immunological tolerance in a patient undergoing an organ transplantation which is to be used in association with radiation, comprising an effective amount of a tolerogen containing hematopoietic stem cells, hematopoietic progenitor cells or a mixture thereof in combination with a pharmaceutical carrier.

4. The immunotolerance inducer according to Claim 3 wherein the tolerogen is comprised of bone marrow cells.

5. A method of inducing immunological tolerance in

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a patient undergoing an organ transplantation in whom an induction of immunological tolerance is needed, which comprises a step of portal administration of a first pharmaceutical composition for portal administration comprising an effective amount of a tolerogen containing hematopoietic stem cells, hematopoietic progenitor cells, mature lymphocytes or a mixture thereof in combination with a pharmaceutical carrier and a step of intravenous administration of a second pharmaceutical composition for intravenous administration comprising an effective amount of said tolerogen in combination with a pharmaceutical carrier.

6. The method according to Claim 5 further comprising administering an immunosuppressant drug during the interim period between the portal administration and intravenous administration.

7. A method of inducing immunological tolerance in a patient undergoing an organ transplantation in whom an induction of immunological tolerance is needed, which comprises subjecting the patient to radiation and administering a pharmaceutical composition comprising an effective amount of a tolerogen containing hematopoietic stem cells, hematopoietic progenitor cells or a mixture thereof in combination with a pharmaceutical carrier.

8. Use of a tolerogen containing hematopoietic stem

cells, hematopoietic progenitor cells, mature lymphocytes or a mixture thereof in the production of the immunotolerance inducer of Claim 1 or 3 for the induction of immunological tolerance in a patient undergoing an organ transplantation.

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